

## ABSTRACT

There is provided a pipe extrusion die that includes a first and second die assembly. The first and second die assembly each include an extrusion head, a nozzle carrying an outer die lip, a hollow mandrel, an inner mandrel carrying an inner die lip, and a layer-forming channel. The layer-forming channel is defined by the space between the nozzle and inner mandrel. The extrusion die includes a space between the nozzle of the second die assembly and the inner mandrel of the first die assembly such that the first and second die assembly do not share a common wall. The space between the inner and outer die lip (die gap) can be individually adjusted and the second die assembly is freely movable relative to the first die assembly. The extrusion die also includes a vacuum cooling mandrel with a single cooling channel and multiple vacuum ports that provide improved vacuum control over the final die product.